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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/477,166	01/04/2000	ALI NAJIB SALEH	M-7166-IP-US	8782

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EXAMINER
LEE, TIMOTHY L

ART UNIT	PAPER NUMBER
2697	

DATE MAILED: 02/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/477,166	SALEH ET AL.	
	Examiner	Art Unit	
	Timothy Lee	2697	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-35* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-35* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *04 January 2000* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *5,6* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 3, 13, 15, 16, 20, 24, 25, 27, 28, and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Munter (US 4,470,139).

3. Regarding claims 1, 13, and 20, Munter discloses a switching network for use in a time division multiplex system for switching digital signals carried in timeslots on N incoming buses to timeslots on M outgoing buses (configuring said switch matrix to couple a plurality of inputs to a plurality of outputs). See col. 2, lines 3-15. The system carries PCM samples along the buses (receiving an information stream at the input). See col. 3, lines 17-31. Each sample would make up a portion of data, so a stream of samples would be like a plurality of portions. The time switch serves to switch channels between timeslots. The crosspoint is only assigned for the duration of the sample, for one timeslot (reconfiguring said switch matrix during a first time period, said first time period corresponding to said one position; a time period defining a switching period). See Fig. 1, col. 2, lines 58-68, and col. 3, lines 1-16.

4. Regarding claims 2 and 15, going from one timeslot to another, the switch 53 can be assigned to other crosspoints (reconfiguring couples said first input to a second input; configuring couples one of said plurality of inputs to a one of said plurality of outputs).

5. Regarding claims 3, 16, and 24, Munter discloses that a single stage timeswitch is inherently non-blocking (rearrangeably non-blocking switch matrix). See col. 1, lines 44-46.

6. Regarding claim 25, if one of the PCM samples contains no data, then inherently it becomes expendable because no data would be lost if it wasn't sent.

7. Regarding claim 27, Munter does not disclose that errors will result during subsequent reconfigurations of the system, so inherently, no errors are expected to occur in the plurality of streams during subsequent configurations.

8. Regarding claims 28 and 29, Fig. 3 discloses a process controller that controls the operations of the switch (configuration of said control circuitry in response to commands from control software running on said control circuitry).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 6, 10, 11, 12, 17, 18, 19, 21, 22, 23, 30, 31, 32, 33, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Munter in view of Toy (US 5,410,600). Munter discloses a switching network for use in a time division multiplex system for switching digital signals carried in timeslots on N incoming buses to timeslots on M outgoing buses (configuring said switch matrix to couple a plurality of inputs to a plurality of outputs). See col. 2, lines 3-15. The system carries PCM samples along the buses (receiving an information stream at the input). See col. 3, lines 17-31. Each sample would make up a portion of data, so a stream of samples

would be like a plurality of portions. The time switch serves to switch channels between timeslots. The crosspoint is only assigned for the duration of the sample, for one timeslot (reconfiguring said switch matrix during a first time period, said first time period corresponding to said one position; a time period defining a switching period). See Fig. 1, col. 2, lines 58-68, and col. 3, lines 1-16. Munter does not expressly disclose the resequencing or the rearranging of portions of data before they are switched through the switch, and resequencing the portions of data back to their original sequence after they have been switched. Toy discloses the re-arranging and the resequencing of packets before and after they have been switched. Before being switched, the bits are scrambled (move a one of said plurality of sub-portions of each one of said plurality of portions from an original position in sequence to another position in said sequence), and on reception, the bits are descrambled (a first and second output resequencing circuit coupled to said plurality of matrix outputs and configurd to move sub-portions from another position to the original position). See cols. 2 and 3. It would have been obvious to a person or ordinary skill in the art at the time of the invention to add the rearranging and resequencing capabilities to the switching network of Munter. One of ordinary skill in the art would have been motivated to do this because re-arranging the data can allow for more secure data transmission as it acts as some basic from of encryption.

11. Regarding claims 10 and 18, Toy does not expressly disclose re-arranging the portions such that a number of portions are set in contiguous positions, but it is obvious that during the scrambling of bits that they could be scrambled in such a manner that the bits are in contiguous positions. One of ordinary skill in the art would have been motivated to do this because the data could be more efficiently compressed by sending it all in a compacted period of time.

12. Regarding claim 12, Munter does not expressly disclose the reading, processing, and writing of protocol information during the transmission of data, but it is obvious that these steps need to be done if a packet is to travel from one protocol to another.

13. Regarding claim 32, Munter discloses that a single stage timeswitch is inherently non-blocking (rearrangeably non-blocking switch matrix). See col. 1, lines 44-46.

14. Regarding claim 33, if one of the PCM samples contains no data, then inherently it becomes expendable because no data would be lost if it wasn't sent.

15. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Munter in view of Smith (US 6,188,686). The rejections for claims 1 and 2 also apply here. Munter does not disclose a Clos switching matrix. Smith discloses that a cross-connect switches can be of Clos type. See col. 11, lines 1-4. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use a Clos switching matrix. One of ordinary skill in the art would have been motivated to do this because a Clos type matrix is a common type of switching matrix.

16. Claims 7, 8, 9, 14, 26, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Munter in view of Toy in furthur view of Kartolopoulos (US 6,266,333). The rejection of claim 6 above also applies here. Munter does not expressly disclose the use of a SONET frame nor a portion of data containing network overhead. Kartalopoulos discloses the use of SONET frames, which happen to contain network overhead in them. See col. 1, lines 41-52. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use SONET frames as the information stream. One of ordinary skill in the art would have been

motivated to do this because SONET frames are a common standard used in transmitting information over optical lines.

17. Regarding claim 9, SONET requires a continuous flow of bits to remain synchronized, so it is obvious that the portions will be loaded with a value to keep the system synchronized. See col. 2, lines 49-63.

18. Regarding claim 14, Kartalopoulos does not expressly disclose the timing of when the leading edge of a portion should be output before a trailing edge of one portion should be received by an input, but it is obvious that the time period of minimal concurrency is such that a leading edge of one portion has been output before a trailing edge is received. One of ordinary skill in the art would have been motivated to do this because this is just one way of setting the timing parameters of the system.

Conclusion

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yoshifuji (US 5,200,746), Christensen et al. (US 4,074,072), Young et al. (US 4,683,564), Banks et al. (US 6,160,813), and Beshai et al. (US 5,168,492) disclose switching systems that can only be switched during certain times.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy Lee whose telephone number is (703)305-7349. The examiner can normally be reached on M-F, 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (703)305-4789. The fax phone numbers for the

organization where this application or proceeding is assigned are (703)746-9420 for regular communications and (703)746-9420 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-4700.

TLL
January 28, 2003

RICKY NGO
PRIMARY EXAMINER